

## ABSTRACT

A method for producing a retrievable hairstyling using shape memory polymers is described. Here a composition is applied to the hair, said composition containing a shape memory polymer P or a macromer M that can be cross-linked to a shape memory polymer, the hair is arranged into a given (permanent) shape and said permanent shape is then fixed by means of chemical cross-linking of the macromer M under the formation of a shape memory polymer and / or under physical cross-linking of the polymer P. The polymer P and the macromer M are formed from block copolymers, each of which comprises at least a first block and at least two additional blocks. The first block is a polyol and is selected from polyethers, dimerdiol and derivatives derived therefrom, as well as from polyesters of dicarboxylic acids with diols. The additional blocks are polyesters of hydroxycarboxylic acids or their lactones. The macromer M possesses cross-linkable regions, as well as thermoplastic regions that are not cross-linkable and, after cross-linking, has a transition temperature of  $T_{trans}$ . The polymer P has a hard segment with a first transition temperature  $T'_{trans}$ , which is above room temperature, and a soft segment with a second transition temperature  $T_{trans}$  which is lower than  $T'_{trans}$ .

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